

The old Linnean *I. lacustris* is the only species which has been found to extend from the Atlantic to the Pacific States, and it probably occupies a northern belt of the northern hemisphere, though it seems not to have been discovered as yet in Asia. The American forms allied to *I. echinospora*, the other north European species, are the most common in the belt of northern States as far west as Michigan, and have been detected also on the western slope of the Rocky Mountains. Of the others, *I. Engelmanni* extends from Massachusetts Georgia and westward to Missouri, though thus far not found anywhere else west of the Alleghany Mountains. *I. flaccida* is peculiar to Florida and *I. Bolanderi* to the lakes of the western mountain chain, the Rocky Mountains as well as the Sierra Nevada. *I. melanopoda* occupies parts of the Mississippi Valley from Central Illinois to Northwestern Texas, while *I. Nuttallii* is the only species found in the valley of the Columbia river. All the other species seem to be nearly or quite local, *I. pygmaea*, in the Californian Sierra, but most of them on the Atlantic border; thus *I. Tuckermanni* occurs only near Boston. *I. saccharata* on streams emptying into the Chesapeake Bay, and *I. melanospora* only on that peculiar and botanically interesting rock, the Stone Mountain of Georgia. Some species which seemed local have lately assumed a little wider range, though yet quite restricted; among these I mention *I. riparia* of the banks of the lower Delaware river which occurs also further north, and *I. Butleri*, first known only from the Indian Territory, now also found in Tennessee. There can be no doubt but that some of the apparently local species will yet be found in a more extended area, when botanists will include in their researches these obscure and inconspicuous plants.

**New Species of Fungi**, by Chas. H. Peck.—HYMENOCHEATE MULTISPINULOSA.—Resupinate, dark reddish-brown, the margin paler, the hymenium velvety by reason of the numerous setæ, uneven, tuberculose, cracking into small areas; setæ straight or slightly flexuous, crowded, .0025–.0045 of an inch long, arising from and often persistently attached to the paler filaments of the substratum.

Surface of decaying wood. Arizona. April. *C. G. Pringle*.

This fungus approaches, in some respects, the subgenus *Veluticeps*. The specimens are sterile. The color is somewhat darker than that of *H. corrugata*.

HYMENULA LYCHNIDIS.—Minute, punctiform, disk whitish or pallid, surrounded by a black margin; spores oblong-cylindrical or subclavate, colorless, .0005–.0008 of an inch long, .00016 broad.

Dead or languishing leaves of Lychnis. California, July. *M. E. Jones*.

To the naked eye this fungus appears like minute black dots, but when magnified the dots are seen to be the black margin, which surrounds a pale disk.

LYCOPERON PACHYDERMUM.—Subglobose, four to six inches in diameter, the radiating bases somewhat pointed, the external peridium thin, smooth, whitish, the upper part cracking into small angular persistent spot-like scales or areas, the inner peridium thick, sub-corky, somewhat brittle, the upper part at length breaking up into irregular fragments; capillitium and spores ochraceous-brown, the filaments long, flexuous, somewhat branched, .0003 of an inch thick;

spores subglobose or broadly elliptical, .0002-.00025 of an inch long.

Arizona, June. *Pringle*.

This is a singular species of *Lycoperdon*, belonging to the section *Boristoides*, but having the peridium of unusual thickness. It is also apparently destitute of any cellular base, in which respect it approaches the genus *Borista*, but the character of the threads of the capillitium points to *Lycoperdon* as its proper genus.

HENDERSONIA CEREI.—Perithecia minute, hemispherical, sometimes collapsed or depressed about the papilliform ostiolum, black; spores numerous, oblong, colored, triseptate, constricted at the septa, .0008-.0009 of an inch long, about .0003 broad, the second cell from the apex sometimes divided by a longitudinal septum.

Dead wood of *Cereus giganteus*. Arizona, April. *Pringle*.

The division of the second cell of some of the spores indicates an approach to the genus *Dichomera* Cooke, *Camarosporium* Schulz.

ASTEROMA PRINGLEI.—Spots orbicular, epiphyllous, black, two to four lines broad, the tips of the radiating hyphæ sometimes dilated; perithecia convex, black, irregularly or sometimes concentrically arranged; spores large, oblong or subfusiform, generally acute at the extremities, slightly colored, .0016-.002 of an inch long, .0005-.0006 broad, often with one to three nuclei.

Leaves of *Quercus hypoleuca*. Arizona, July. *Pringle*.

Most of the specimens are sterile, and those that are fertile do not appear to be in very good condition.

USTILAGO CYLINDRICA.—Attacking the spikes of the host plant and converting them into a cylindrical mass of spores six to ten lines long, about one line thick, invested by a thin cinereous at length lacerated membrane; spores subglobose, minutely roughened, brownish-black, .00035-.0004 of an inch in diameter, intermingled with large irregular unequal pale cellular bodies .0008-.0014 of an inch broad.

Grass. Arizona, June. *Pringle*.

The host plant is probably some species of *Andropogon*. The cylindrical mass into which the inflorescence is converted by the fungus resembles somewhat the ergot of rye in external appearance, but it is usually more slender than the ergot. The rachis forms a white central columella which runs through the mass of spores.

PILEOLARIA EFFUSA.—Forming a continuous or circumambient velvety reddish-brown stratum over the young branches, petioles and leaves of the host plant; spores subglobose, minutely roughened, .00096-.0011 of an inch in diameter, uninucleate; pedicel short, colorless, .0005-.0008 of an inch long.

Living branches and leaves of *Rhus*, probably *R. aromatica* or *R. triloba*.

Arizona, May. *Pringle*.

This is very distinct from *Pileolaria brevipes*, our eastern

species, both in its effused mode of growth and in its much shorter pedicel, whose length is scarcely equal to the diameter of the spore.

UROMYCES COMPACTA.—Spots none or obsolete; sori compact, orbicular or oblong, blackish-brown; spores elliptical or oblong, obtuse or bluntly pointed, .0014–.0019 of an inch long, .0009–.001 broad; pedicel colorless, equalling or exceeding the spore in length.

Dead stems of some "Composite plant." Arizona. May. *Pringle*.

UROMYCES VERSATILIS.—Spots none; sori numerous, minute, amphigenous, rotund or oblong, slightly elevated, ochraceous-brown; spores oblong or oblong-pyriform, generally separating from the pedicel when old, .0009–.0012 of an inch long, .0005–.0006 broad; pedicel short.

Living branches, petioles and leaves of *Acacia Greggii*. Arizona. May. *Pringle*.

This is an aberrant species, and approaches *Trichobasis* in its deciduous spores. The young spores are subglobose and borne on pedicels larger than themselves, thus resembling the paraphyses of some species of *Lecythea*. The color of the spores is pale ferruginous, or reddish-brown with an ochraceous tint. The fungus is abundant on the young branches as well as on the leaves of the host plant.

PUCCINIA GAYOPHYTI.—Spots none; sori small, scattered, amphigenous, reddish-brown; spores obovate or subelliptical, generally constricted at the septum, obtuse, smooth, .0012–.0016 of an inch long, .0008–.00095 broad; pedicel short, colorless.

Living leaves of species of *Gayophytum*. Soda Springs, California. *Jones*. Northern California. Aug. *Pringle*.

PERIDERMIIUM FILAMENTOSUM.—Peridia numerous, irregularly arranged, erumpent, three or four lines long, one or two lines broad, cylindrical or subcompressed, obtuse at the apex, membranous, whitish when evacuated, containing a central bundle of loose percurrent concolorous longitudinal filaments which are attached to the inner surface at the apex; spores varying from subglobose or broadly elliptical to oblong-ovate or oblong-elliptical, yellow-orange, .0011–.0013 of an inch long, .00064–.0008 broad, epispore thick, minutely roughened.

Living branches of *Pinus ponderosa*. Arizona. July. *Pringle*.

This is a very interesting species. Its peculiarity is found in the central longitudinal filaments which extend through the mass of spores from the base to the apex of the peridium. The surface of these filaments is covered with minute protuberances which appear when magnified as if they might be immature spores. In the specimens before me none of the peridia are open at the apex, and in this respect also a remarkable departure is made from the generic character. The peridia in some of the specimens are longitudinally ruptured, thus indicating a relationship to the genus *Ræstelia*.

They are generally terete but sometimes a little flattened or compressed. The central filaments tend to hold the spores in mass so that they do not fall away as readily as in other species, and their attachment to the apex of the peridium appears to interfere with its rupturing at that point. Two other species, viz: *Peridium Pini* Lev. and *Peridium Harknessii* Moore, have been reported as inhabitants of *Pinus ponderosa*.

**DOTHIDEA DASYLIRII.**—Stroma amphigenous, small, narrowly elliptical, oblong or linear, black, for a long time covered by the epidermis which is at length ruptured longitudinally; cells few, white within; asci oblong or subcylindrical; spores crowded or biseriate, oblong, often a little broader toward one end, colorless, .0012-.0017 of an inch long, .00065-.00075 broad.

Leaves of some species of *Dasyliirion*, probably *D. Wheeleri*. Arizona. May. *Pringle*.

**DOTHIDEA PRINGLEI.**—Stroma irregular in shape, variable in size, two to twelve lines long, penetrating the matrix deeply, amphigenous, black, surface uneven, coarsely papillose by the scattered slightly prominent ostiola, cells unequal, deeply seated; asci cylindrical; spores oblong-elliptical, smooth, uniseriate, colored, .0012-.0016 of an inch long, .0008 broad, often containing two or more nuclei.

Living and languishing leaves of *Yucca macrocarpa*. Arizona. May. *Pringle*.

Sometimes the surface of the stroma is shining, but usually it is opaque.

**TEICHOSPORA ARIDOPHILA.**—Perithecia minute, .01-.012 of an inch in diameter, scattered, hemispherical or depressed, black, ostiole minute, papilliform; asci subcylindrical, .0045-.0048 of an inch long, .0011-.0012 broad; spores crowded or biseriate, oblong or obovate, slightly constricted in the middle, muriform, colored, .0011-.0014 of an inch long, .0005-.0006 broad.

Bleached surface of dry wood. Arizona. May. *Pringle*.

This species is closely related to *T. obduens*, but differs so much in habit, that it seems best to separate it.

**Selenia aurea.**—Growing with the normal form of this species, having *golden yellow* petals, is a variety with the petals pale canary yellow.

This species has fragrant flowers. The pleasant odor is wafted with the wind to a considerable distance from a large patch.

The golden yellow of the petals is so intense that it is painful to the eyes to look for any length of time at a large patch in the bright sunshine.

The flowers are so conspicuous they would make a striking appearance in a flower garden planted in bunches.—F. L. HARVEY.

**Notes on Ranunculus.**—While examining some specimens